

U.S. Serial Number: 10/722,241
Reply to Office Action of: June 14, 2006
Family Number: P2003J020

Page 7 of 11

REMARKS

Reconsideration of this application is requested. The claims submitted for reconsideration are claims 1 – 22.

Claim 23 is canceled.

I. Rejections under 35 U.S.C. §102

The rejection of claim 15 under 35 U.S.C. §102(b) over Degnan, Jr., U.S. Patent 4,853,104 is respectfully traversed. Claim 15 requires a base oil having a mid-boiling point range (50% LV), as determined by ASTM D6417, of about 400 to about 490°C, and a Viscosity Index of about 80 – 120. The Office Action cites to Column 10, lines 1 – 6 and Table 4 of Degnan, Jr. as disclosing this combination of mid-boiling point range and Viscosity Index. However, the cited portions of Degnan, Jr. provide properties for two different oils. As a result, a Degnan, Jr. does not disclose a base oil having both the required mid-boiling point range and Viscosity Index of claimed base oil of claim 15.

In particular, Example 2 in Degnan, Jr. (Col. 9, line 48 – Col. 10, line 6) describes the hydrocracking of 100 cubic centimeters of an Arab light raw distillate. At Col. 9, line 61 – 67, Example 2 specifies that the hydrocracked sample is passed to a solvent extraction step. The oil described in table 4 corresponds to the 20 cc of hydrocracked extract produced by the solvent extraction. This table provides a boiling point value at 50% distillation, but no Viscosity Index is provided. By contrast, Col. 10, lines 1 – 6 describes the properties of the waxy raffinate after dewaxing. A Viscosity Index is provided for this oil, but no boiling point information is provided. As a result, Degnan, Jr. fails to describe a base oil having a mid-boiling point range

U.S. Serial Number: 10/722,241
Reply to Office Action of: June 14, 2006
Family Number: P2003J020

Page 8 of 11

(50% LV), as determined by ASTM D6417, of about 400 to about 490°C, and a Viscosity Index of about 80 – 120.

II. Rejections under 35 U.S.C. §103

Claims 1 – 11, 13, and 16

The rejection of claims 1 – 11, 13, and 16 under 35 U.S.C. §103(a) over Moyer, U.S. 2,868,716, in view of Yan, U.S. 3,968,023 and Woodle, U.S. 3,746,635 is respectfully traversed. The combination of Moyer in view of Yan and Woodle fails to provide a proper prima facie case of obviousness, as the combination of Moyer with Yan would render Yan unsatisfactory for its original intended purpose. (In re Gordon, 733 F.2d 900 (Fed. Cir. 1984); MPEP 2143.01(V))

Yan is directed to an improved combination for the production of oils. The operation of the initial portion of the Yan invention is described at Col. 2, lines 1 – 23 and Col. 3, lines 1 – 32. In Yan, an oil is fed via conduit 14 to a solvent extraction zone 16. (Col. 2, lines 1 – 23) A raffinate product with reduced aromatic content is recovered and removed from solvent extraction zone 16 by conduit 18. This raffinate product is sent to a stripping zone 20 for removal of solvent. By contrast, the extract product of solvent extraction zone 16 is passed by conduit 28 for admixture with additional oil from conduit 12 in mixing zone 30. (Col. 3, lines 1 – 32) This mixture is then passed by conduit 32 to a second extraction zone 34. As noted in Yan,

“Thus in the arrangement of this invention the furfural solvent recovered from the light gas oil solvent extraction step is cascaded to the heavy gas oil extraction operation without any intermediate separation or purification of the furfural solvent.” (Col. 3, lines 23 – 27, emphasis added.)

U.S. Serial Number: 10/722,241
Reply to Office Action of: June 14, 2006
Family Number: P2003J020

Page 9 of 11

Thus, according to the invention in Yan, a lube stream is contacted with solvent in a first solvent extraction zone. The aromatics-rich extract solution provided by this first extraction zone is mixed with a second oil stream without any intermediate separation or purification. The resulting mixture is then passed to another solvent extraction zone 34. In the following paragraph (Col. 3, lines 33 – 47), Yan explains the benefits of the improved solvent extraction combination, as it provides an improved quality of feed to be hydrocracked and that such an improvement provides an improved yield of lube product provided in part by milder hydrocracking severity conditions.

The above operation of Yan is in direct contrast with the claimed invention, where after contacting a light lube stream with a first extraction solvent, a portion of the first extraction solvent is removed from the first aromatics-rich extract solution. Yan states that a solvent removal step (such as removal step (b) of the claimed invention) should not be performed, so that the benefit of an improved quality of feed can be realized.

In order to combine Moyer with Yan to arrive at the claimed invention, the express teaching of Yan to mix the aromatics-rich extract solution from the first extraction zone with a second stream without any intermediate separation or purification must be ignored. This would destroy the operability of Yan for its original intended purpose. Therefore, any such combination of Moyer with Yan is improper and cannot serve as the basis for a prima facie case of obviousness.

Applicants note that Woodle contains no description or suggestion that can cure this defect in combining Moyer with Yan. As a result, the rejection is improper, and reconsideration and withdrawal of the rejection are respectfully requested.

U.S. Serial Number: 10/722,241
Reply to Office Action of: June 14, 2006
Family Number: P2003J020

Page 10 of 11

Claims 12 and 14

Claim 12 was rejected over the above combination of Moyer in view of Yan and Woodle, and further in view of Sequeira, Jr., U.S. 5,039,399. Similarly, claim 14 was rejected over Moyer in view of Yan and Woodle, and further in view Degnan, Jr. Neither Sequeira, Jr. nor Degnan, Jr. contains any description or teaching that cures the defect noted above in the combination of Moyer with Yan. As a result, reconsideration and withdrawal of the rejection of claims 12 and 14 is also respectfully requested.

Claims 17 - 22

The rejection of claims 17 - 22 under 35 U.S.C. §103(a) over Fletcher, U.S. 4,399,025, in view of Yan and Woodle is respectfully traversed. The combination of Fletcher in view of Yan and Woodle fails to provide a proper prima facie case of obviousness, as the combination of Fletcher with Yan would render Yan unsatisfactory for its original intended purpose. (In re Gordon, 733 F.2d 900 (Fed. Cir. 1984); MPEP 2143.01(V))

As described above, Yan does not describe or suggest removing a portion of solvent from an aromatics-rich extract solution to produce an aromatics-rich extract, as required in steps (b) and (d) of claim 17. Instead, Yan requires mixing the aromatics-rich extract solution with another oil without any intermediate separation or purification. Any effort to combine Fletcher with Yan suffers from the same defect described above – specifically, combining Yan with Fletcher to arrive at the claimed invention is not permissible, as such a combination would destroy the operability of Yan for its original intended purpose. Thus, claims 17 - 22 are allowable for at least this reason, and reconsideration and withdrawal of the rejection is respectfully requested.

U.S. Serial Number: 10/722,241
Reply to Office Action of: June 14, 2006
Family Number: P2003J020

Page 11 of 11

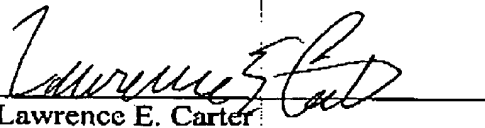
III. Conclusion

Having demonstrated that all rejections of claims have been overcome, this application is in condition for allowance. Accordingly, applicants request early and favorable reconsideration in the form of a Notice of Allowance.

If there are any questions regarding this amendment or the application in general, a telephone call to the undersigned would be appreciated, since this should expedite the prosecution of the application for all concerned.

If necessary to effect a timely response, this paper should be considered as a petition for an Extension of Time sufficient to effect a timely response. Please charge any deficiency in fees or credit any overpayments to Deposit Account No. 05-1330.

Respectfully submitted,



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☒ Pursuant to 37 CFR 1.34(a)

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